



November 2013

# Gymnopilus Notebook 6

L. R. Hesler

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## Recommended Citation

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Sm-56468 GYMNOPILUS RUFESCENS sp. nov. - TYPE PHOTO

On conifer wood, Prairie Creek Park, Orick, California,  
December 9, 1956.

Notes by Smith

Pileus 10-15 mm broad, obtuse to convex, evenly "Kaiser brown" fading to paler rufous, and fading on disc first, surface glabrous, moist and hygrophanous, margin opaque, very faintly striatulate. Context thin, concolorous with surface; odor none, taste bitter.

Lamellae deeply adnexed to nearly free, bright "cinnamon buff" (not yellow), spotted orange brown in some, crowded, broad, edges even.

Stipe 2-3 cm long, 1.5-2 mm thick, concolorous with ~~stipe~~ <sup>pileus</sup> below, paler orange buff above, equal, naked, apex faintly pruinose.

Notes by Hesler

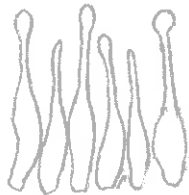
Spores 4-5.5 x 2.5-3.5  $\mu$ , ellipsoid to ovoid, at times sub-pip-shaped, in face view, inequilateral in profile, verruculose, sub-asperulate, ferruginous in KOH, non-dextrinoid, no germ pore. Basidia 22-25 x 3-4  $\mu$ , 4-spored. Pleurocystidia 20-24 x 4-5  $\mu$ , ventricose; cheilocystidia 18-25 x 2-5  $\mu$ , flask-shaped, with a slender neck, capitate or non-capitate. Gill trama of subparallel hyphae, 2-5  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent hyphae; pileocystidia none. Caulocystidia none. Yellow pigment, soluble in KOH, present in the gill trama.

*Gymnopilus rufescens* sp. nov.

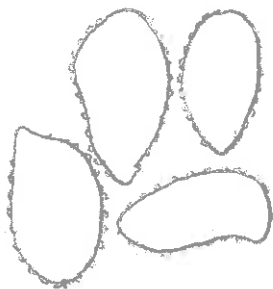
Sm - 56468 - Type



Gl - ~~x 1000~~



Ch - x 1000



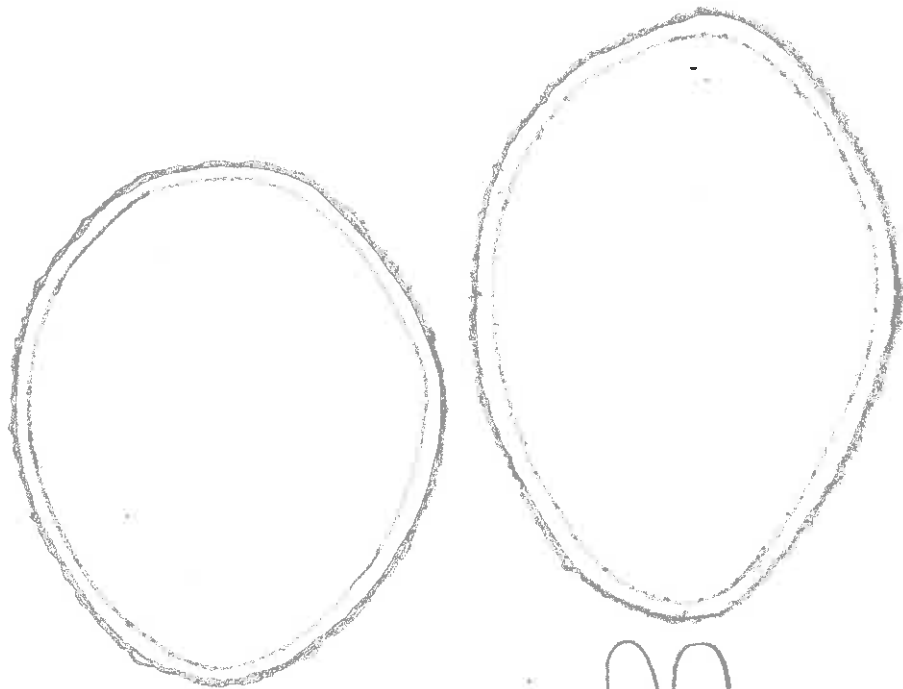
Spores - x 4000



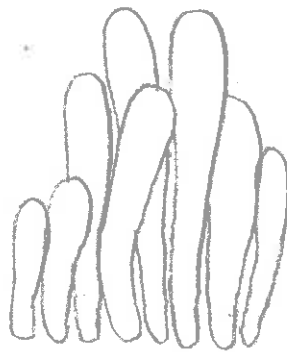
Spores - x 8000

*Gymnopilus rufobrunneus* sp. nov.

Sm-70514 (type)



Spores - x 8000



Caulo - x 1000

Sm-70514

GYMNOPILUS RUFOBRUNNEUS sp. nov.

On soil, caespitose, Priest River, Idaho, September 18, 1964

Notes by Smith

Pileus 2-3 cm broad, convex, expanding to plane or with a low umbo, surface glabrous, moist and hygrophanous, margin striate when moist, color "Hays russet" to dark rusty cinnamon, paler when faded. Context thin, fragile; odor none, taste slowly bitterish; KOH quickly darker rusty brown;  $\text{FeSO}_4$  dark olivaceous.

Lamellae bluntly to depressed adnate, dark rusty cinnamon but brighter than cap, close to subdistant, moderately broad.

Stipe 4-6 cm long, 2-2.5 mm thick, equal, fragile, dark rusty cinnamon over all in age, fibrils grayish, base with thin layer of brownish fibrils. Veil leaving a faint evanescent fibrillose zone near apex.

Notes by Hesler

Spores 7-9(10) x 5-7  $\mu$ , ellipsoid or ovoid, verruculose, no germ pore, (~~but with a slight hilum?~~) ferruginous in KOH, 1/4 dextrinoid after 20 minutes, entirely dextrinoid after 2 hours. Basidia 30-36 x 8-10  $\mu$ , 4-spored. Pleurocystidia and cheilocystidia none. Gill trama of subparallel hyphae 6-17  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle of brown repent, dry hyphae; no pileocystidia.

Clamp connections present. Caulocystidia 18-45 x 4-9  $\mu$ ,  
cylindric-clavate, colorless, in tufts.

Near G. terrestris, however in Sm-70514, the spores  
are broader than in terrestris, a veil is present, taste  
bitter, the pileus cuticle dark brown (not glassy-colorless),  
pileus differently colored, stipe much more slender.

Dean-70

GYMNOPIIUS RUFOSQUAMULOSUS sp. nov.

On oak trees, Rockport, Texas, August 25, 1966.

Notes by Dean

Pileus 0.6-5 cm broad, convex to plane, buff to tawny, with small, red to orange scales, margin wavy, paler. Context thin, pale yellowish; odor pleasant, taste bitter.

Lamellae attached, seceding, orange, close, medium broad, unequal.

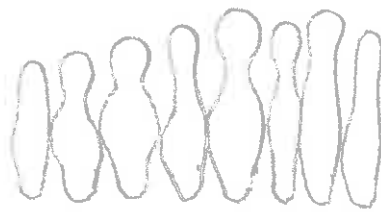
Stipe 4-5.5 cm long, 3-4 mm thick, dingy yellowish brown, striate, slightly fibrillose, tapering upward, fistulose. Veil leaving a somewhat persistent, upturned, superior annulus.

Spores 7-9 x 4.5-5(5.5) <sup>Notes by Hesler</sup>  $\mu$ , ellipsoid, inequilateral, ferruginous in KOH, not dextrinoid at first but entirely so after two hours, verruculose, no germ pore. Basidia 23-28 x 6-7  $\mu$ , 4-spored. Pleurocystidia none; cheilocystidia 18-26 x 4-8  $\mu$ , 9-pin-shaped or ventricose, capitate to non-capitate. Gill trama of subparallel hyphae, 4-10  $\mu$  broad; subhymenium not distinctive. Pileus trama very loosely interwoven. Cuticle not distinctly differentiated, bearing bundles of brown, septate hyphae, the terminal elements as pileocystidia, 30-60 x 7-11  $\mu$ , sometimes incrustated. Caulocystidia none. Clamp connections rare and inconspicuous. Yellowish brown pigment, soluble in KOH, present in gill trama.

It may have some affinity with G. peliolepis which has reddish scales on the pileus, but that species has pleurocystidia and caulocystidia.

*Gymnophilus rufosquamulosus* sp. nov.

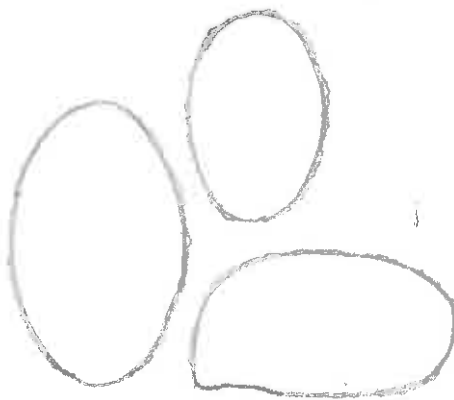
Dean - 70



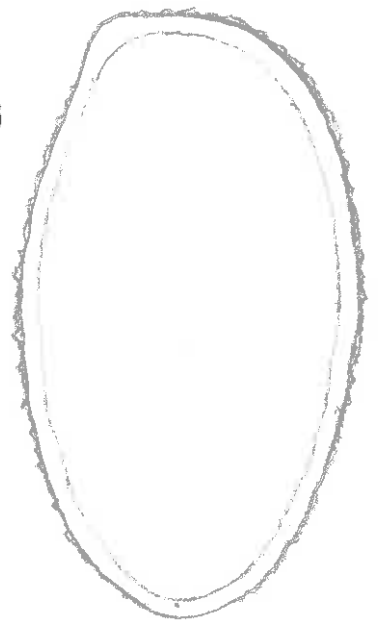
Ch - x 1000



Pileo - x 1000



Spore x 4000



Spore - x 8000



Galerina

AGARICUS (PHOLIOTA) SABULOSA Pk.

Bull. Torrey Bot. Club 23: 414. 1896

On sandy soil, leg. L.M. Underwood, Auburn, Ala., December 1895

Type (from Underwood coll. at NYBG)

Spores 7.5-10 x 4.5-5.5  $\mu$ , ellipsoid or ovoid, inequilateral or subamygdaliform, verruculose, at times slightly calyptrate, no germ pore, no plage. Basidia 23-27 x 5-6  $\mu$ , 4-spored. Pleurocystidia 30-50 x 8-14  $\mu$ , ventricose-flask-shaped, often collapsed or shrivelled; cheilocystidia 30-40 x 5-9  $\mu$ , more or less similar. Gill trama subparallel, hyphae 3-7  $\mu$  broad. Pileus trama radial. Cuticle repent. No pilocystidia. Caulocystidia none. Clamp connections present.

Galerina,

This seems to be a ~~Galerina~~, ~~near Galerina~~, but not included in Galerina by Smith and Singer.

Galerina

AGARICUS (PHOLIOTA) SABULOSA Pk.

Bull. Torrey Bot. Club 23: 414. 1896

On sandy soil, leg. L.M. Underwood, Auburn, Ala., December 1895

Type

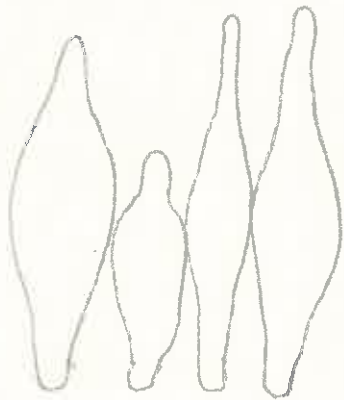
Spores 7.5-10 x 4.5-5.5  $\mu$ , ellipsoid or ovoid, inequilateral or subamygdaliform, verruculose, at times slightly calyptrate, no germ pore, no plage. Basidia 23-27 x 5-6  $\mu$ , 4-spored. Pleurocystidia 30-50 x 8-14  $\mu$ , ventricose-flask-shaped, often collapsed or shrivelled; cheilocystidia 30-40 x 5-9  $\mu$ , more or less similar. Gill trama subparallel, hyphae 3-7  $\mu$  broad. Pileus trama radial. Cuticle repent. No pilocystidia. Caulocystidia none. Clamp connections present.

This seems to be a Gymnopilus, near Galerina, but not included in Galerina by Smith and Singer.

See N.A. 7. 10 (Part 5): 277. 1932.

*Gholiata sabulosa* (Pk.)

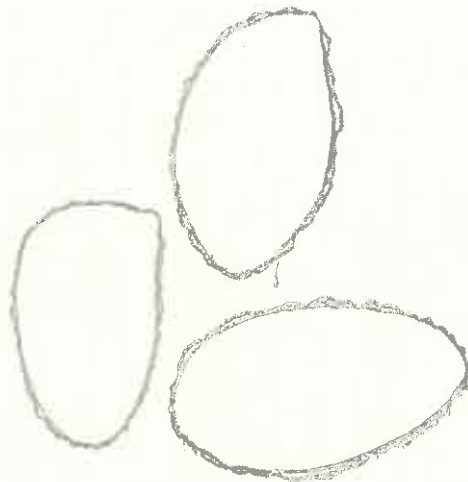
Type



Pl - x 1000



Ch - x 1000



Spores - x 4000

AGARICUS SAPINEUS Fr., Syst. Myc. 1:239. 1821

[Subtr. 4. Lignatiles: Veil fugaceous, Stipe firm unequal, radicate. Pileus fleshy, obtuse, dry, lutescent. Lamellae adfixed.]  
(Translation from Fries)

Pileus 2.5-10 cm broad, compact, fleshy, lutescent, convex-plane, obtuse, minutely floccose-squamulose, then rimose-diffracted. Flesh thick, lutescent, soft, not scissile; odor strong.

Lamellae adnate, broad, yellow then fulvous-cinnamon.

Stipe usually short, solid then hollow, fuscescent where bruised (rubbed), often compressed. Cortina yellowish, vestigial to manifest.

FLAMMULA SAPINEA Fr.

Under pine, Leighton Buzzard, England, October 13, 1951, N.Y.B.G.

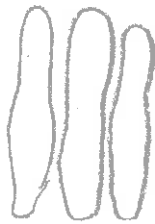
Spores 7-9(10) x 4.5-5.5  $\mu$ , ellipsoid in profile, inequilateral in profile, verrucose, no germ pore, ferruginous in KOH, dextrinoid in Melzer's reagent. Basidia 23-26 x 6-7  $\mu$ , 4-spored. Pleurocystidia 24-28 x 5-6  $\mu$ , ventricose; cheilocystidia 30-40 x 5-7  $\mu$ , flask-shaped, with a slender neck, capitate. Gill trama subparallel, hyphae 5-11  $\mu$  broad. Subhymenium not distinctive. Pileus trama radial. Cuticle a brown zone, of repent hyphae, with an occasional mound of brown ventricose pileocystidia, 24-30 x 5-8  $\mu$ . Surface hyphae more or less incrustated. Caulocystidia slender-flask-shaped, 37-48 x 3-7  $\mu$ , neck slender, capitate, in rosettes. Yellow pigment, soluble in KOH, present in gill trama.

FLAMMULA SAPINEA Fr.

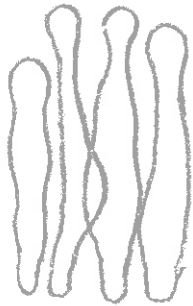
Under pine, Leighton Buzzard, England, October 13, 1951, N.Y.B.G.

Spores 7-9(10) x 4.5-5.5  $\mu$ , ellipsoid in profile, inequilateral in profile, verrucose, no germ pore, ferruginous in KOH, dextrinoid in Melzer's reagent. Basidia 23-26 x 6-7  $\mu$ , 4-spored. Pleurocystidia 24-28 x 5-6  $\mu$ , ventricose; cheilocystidia 30-40 x 5-7  $\mu$ , flask-shaped, with a slender neck, capitate. Gill trama subparallel, hyphae 5-11  $\mu$  broad. Subhymenium not distinctive. Pileus trama radial. Cuticle a brown zone, of repent hyphae, with an occasional mound of brown ventricose pileocystidia, 24-30 x 5-8  $\mu$ . Surface hyphae more or less incrustated. Caulocystidia slender-flask-shaped, 37-48 x 3-7  $\mu$ , neck slender, capitate, in rosettes. Yellow pigment, soluble in KOH, present in gill trama.

*Flammula sapinea*  
D A Reid, Feighton Buzzard, England  
Oct 13, 1951



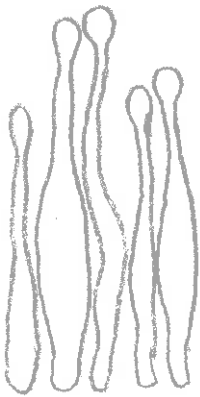
Gl -  $\times 1000$



Ch -  $\times 1000$



Pileo -  $\times 1000$   
(mound)



Caules -  $\times 1000$   
(rosette)

ex-Kew

GYMNOPIIUS SAPINEUS

On and around pine stump, Surrey, D.A. and P.M. Reid, 5-8-65.

Notes by Reid

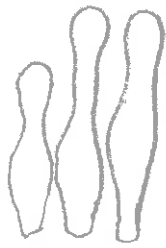
Cap rather duller than in penetrans. Hyphae on cap broad, up to 18.2  $\mu$ .

Notes by Hesler

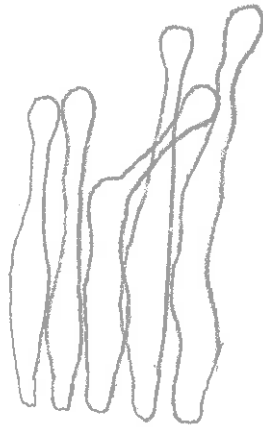
Spores 7.5-9.5 x 4.5-5.2  $\mu$ , ellipsoid, slightly inequilateral, verruculose, ferruginous in KOH, a few dextrinoid at once (in Melzer's). Pleurocystidia 22-30 x 5-6  $\mu$ , ventricose; cheilocystidia 24-38 x 4-7  $\mu$ , flask-shaped, more or less capitate. Caulocystidia 40-57 x 4-6  $\mu$ , similar to cheilocystidia.



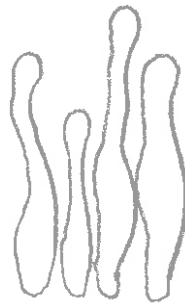
*Gymnophilus sapinensis*  
ex Kew (Reid 5.8.65)



Gl - x 1000



Caulo - x 1000



Ch - x 1000

GYMNOPIIUS SAPINEUS

From Romell, Femsjo, Sweden; N.Y.B.G.

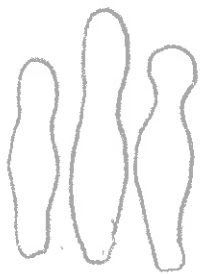
Spores (6.5) 7.5-8.5(9) x 4-5.5  $\mu$ , ellipsoid in face view, inequilateral in profile, verruculose, no germ pore, ferruginous in mass, dextrinoid. Basidia 24-28 x 6-7  $\mu$ , 4-spored. Pleurocystidia 25-33 x 6-7  $\mu$ , ventricose, at times subcapitate, scattered; cheilocystidia 32-40 x 4-7  $\mu$ , ventricose, bottle-shaped, or slender-flask-shaped, sometimes capitate or subcapitate. Gill trama subparallel, hyphae 4-10  $\mu$  broad. Subhymenium not distinctive. Pileus trama radial. Cuticle a dark brown zone, of 5-7 layers of repent hyphae, at times obscurely incrustated, bearing mounds of brown pileocystidia (dots on surface), 20-27 x 5-8  $\mu$ , ventricose, obclavate, or subpyriform. Clamp connections present. Caulocystidia in tufts, 24-63 x 3-7  $\mu$ , ventricose, slender-fusoid, to slender-bottle-shaped, at times capitate.

GYMNOPIIUS SAPINEUS

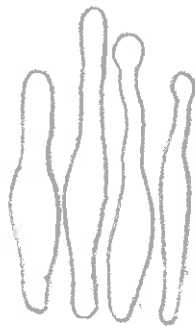
From Rensell, Femsjo, Sweden; N.Y.B.G.

Spores (6.5) 7.5-8.5(9) x 4-5.5  $\mu$ , ellipsoid in face view, inequilateral in profile, verruculose, no germ pore, ferruginous in mass, dextrinoid. Basidia 24-28 x 6-7  $\mu$ , 4-sporad. Pleurocystidia 25-33 x 6-7  $\mu$ , ventricose, at times subcapitate, scattered; cheilocystidia 32-40 x 4-7  $\mu$ , ventricose, bottle-shaped, or slender-flask-shaped, sometimes capitate or subcapitate. Gill trama subparallel, hyphae 4-10  $\mu$  broad. Subhymenium not distinctive. Pileus trama radial. Cuticle a dark brown zone, of 5-7 layers of repent hyphae, at times obscurely incrustated, bearing mounds of brown pileocystidia (dots on surface), 20-27 x 5-8  $\mu$ , ventricose, obclavate, or subpyriform. Clamp connections present. Caulocystidia in tufts, 24-63 x 3-7  $\mu$ , ventricose, slender-fusoid, to slender-bottle-shaped, at times capitate.

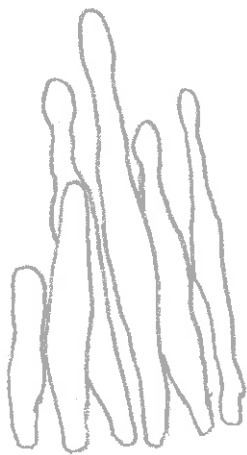
*Flammula ~~Andromeda~~ sapinea*  
Romell, Femisjo, Sweden, N.Y.B.S.



Pl - x 1000



Ch - x 1000



Caulo - x 1000  
(tufts)



Pileo - x 1000  
(tufts)

*-saxinea*  
FLAMMULA PENETRANS

No. 4135, Mauritzberg, Sweden, Coll. W. A. & E. R. Murrill,  
det. L. Romell (date?), N.Y.B.G.

Spores 7-8.5 x 4-4.5  $\mu$ . Caulocystidia none found.

Other characters as in Romell's Femsjö collection.

*sapinea*  
FLAMMULA PENETRANS

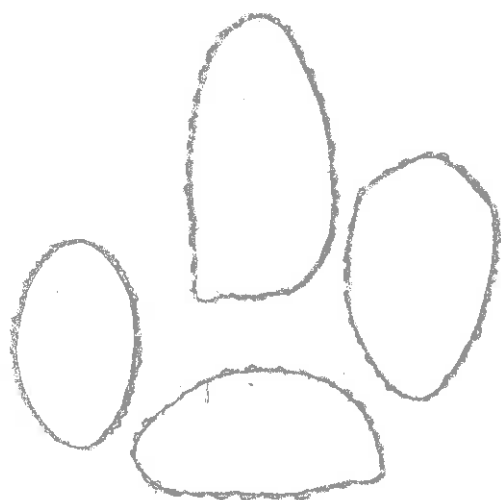
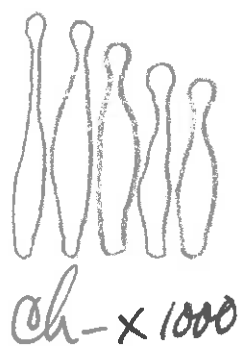
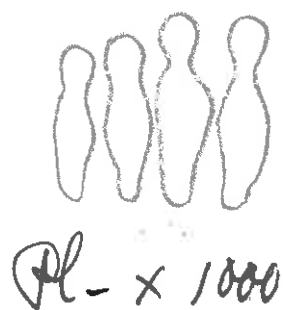
Coll. Romell, No. 9832, Molnvik-Gustavsberg, Sept. 24, 1899 (S)

Spores 6-8 (9) x 4-4.5  $\mu$ , ellipsoid to ovoid in face view, slightly inequilateral in profile, verruculose, germ pore none, ferruginous in KOH, red-brown in Melzer's reagent. Basidia 20-25 x 5-6  $\mu$ , 4-spored. Pleurocystidia 20-26 x 5-7  $\mu$ , ventricose; cheilocystidia 23-32 x 4-6  $\mu$ , flask shaped, capitate, more rarely non-capitate. Gill trama of subparallel hyphae, 5-9  $\mu$  broad. Subhymenium scarcely distinctive. Pileus trama radial. Cuticle a zone of brown, incrustated, repent, radially disposed hyphae. *sapinea* Pileocystidia and caulocystidia not found. Clamp connections present.

*Lammula penetrans sapinea*

(5)

Coll. Romell No. 9832, Mölnvik - Gustavsberg, Sep 24, '99



*-papinea*  
FLAMMULA PENETRANS

No. 7, Montgomery, Ala., R. P. Burke, June 22, N.Y.B.G.

Spores, pleurocystidia cheilocystidia, pilocystidia  
in mounds--all typical--as in Romell collections.  
Caulocystidia numerous, larger than usual, 32-66 x 7-13  $\mu$ ,  
clavate to ventricose.



*- Rafines*  
FLAMMULA PENETRANS

Coll. & Det. Bresadola, 1889, N.Y.B.G.

Spores 7-8.5 x 4-5  $\mu$ . Caulocystidia and pilocystidia none. Otherwise same as Romell collections, N.Y.B.G.

*sapinea*  
GYMNOPILUS PENETRANS

Auburn, Ala., coll. F. S. Earle, 12-21-1899, labeled F.  
sapinea by Earle, and G. penetrans (on box) by Murriall,  
N.Y.B.G.

Notes in box say: Cortina of yellow fibrils.

Spores 7-9 x 4-5  $\mu$ , rarely 10-5.5  $\mu$ , ellipsoid,  
verrucose, no pore. Pleurocystidia ventricose, at times flask-  
shaped and capitate; cheilocystidia flask-shaped, capitate.  
Gill trama subparallel, hyphae 5-11  $\mu$  broad. Pileus trama radial.  
Cuticle a dark brown zone, of repent hyphae, bearing mounds  
of brown hyphae, which are cylindric to subventricose--as pilocys-  
tidia 32-48 x 4-7  $\mu$ . Clamps present.

The mounds on the pileus suggest liquiritiae, and the veil  
suggests sapinea or penetrans.

*- sapineus*  
GYMNOPIUS PENETRANS

Biloxi, Mississippi, E. S. Earle, Sept. 6, '04, (Notes  
say: "Gymnopilus punctisporus Earle: F. sapinea ss.  
Amer. Auct.)

Spores 7-8.5 x 4-4.5  $\mu$ , verrucose, ellipsoid. Pleuro-  
cystidia ventricose; cheilocystidia flask shaped, capitate.  
Gill trama subparallel. Pileus trama radial. Cuticle a  
zone of dark-brown, repent hyphae.

Sargent - 360 GYMNOPIIUS SAPINEUS (Fr.) R. Maire

On rotten log, Idaho Co., Idaho, leg. B. Jeanne, det. D. Sargent, July 1, 1962.

Spores 7-9.5 x 4.5-5.5  $\mu$ , dextrinoid. Pileus fibrillose-scaly.

Sargent - 437 GYMNOPIIUS SAPINEUS (Fr.) R. Maire

On conifer logs, Iron Creek, Goat Co., Stanley, Idaho, July 16, 1962,  
det. Sargent.

Spores 7-8.5 x 4.2-5  $\mu$ , dextrinoid.

Sargent - 746      GYMNOPIIUS SAPINEUS (Fr.) R. Maire

On conifer logs, Payette Lake, Idaho, leg. - det. Sargent, Aug. 21, 1962.

Spores 7.5-9 x 4.5-5.5  $\mu$ , dextrinoid. This assumes a yellowish veil.

Murrill-746

*sapineus*  
GYMNOPIIUS PENETRANS

No. 746, Glen Brook, Ore. Murrill, Nov. 7, 1911, N.Y.B.G.

Spores 7-8.5 x 4.5-5 $\mu$ , ellipsoid, sometimes slightly inequilateral in profile, verruculose, no germ pore. Basidia 30-33 x 6-7  $\mu$ , 4-spored. Basidioles (basidium shaped, with brown contents) present. Pleurocystidia 30-35 x 5-6  $\mu$ , ventricose, at times capitate, inconspicuous; cheilocystidia 28-34 x 4-6  $\mu$ , flask shaped to subcylindric, capitate. ~~trama~~ *Pileus* trama radial. Cuticle a dark brown zone of repent hyphae. Pilocystidia none.

*sapinea*  
GYMNOPIIUS PENETRANS

No. 9, near Charleston, S. C., J.K. Small and L. M. Bragg,  
Feb. 15, 1916, N.Y.B.G.

Spores (6.5) 7.5-0 x 4-5  $\mu$ , ellipsoid, inequilateral in profile, verruculose, no germ pore. Pleurocystidia and cheilocystidia present, flask-shaped, capitate. Cuticle a zone of brown hyphae, some incrustated.

(The label in the box calls it F. sapinea; the label on the outside, attached to the lid, calls it G. penetrans).



SM - 990

GYMNOPIIUS SAPINEUS

On larch stump, Whitmore Lake, Mich., Oct. 3, 1934.

Spores 6.5-10 x 4.5-6  $\mu$ . Pileus scaly.

Rea H. - 1153

GYMNOPIIUS SAPINEUS

On chips (?), Santa Barbara, Calif., Jan. 11, 1942.

Spores 7-9 x 4.5-5.5  $\mu$ . Pileus scaly.

*capitatus*  
GYMNOPIUS PENETRANS

No. 486, Seattle, Wash., leg. W.A. Murrill, Oct. 20, - Nov. 1, 1911.

Spores 7.5-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, verrucose, no pore. Pleurocystidia and cheilocystidia as determined by Romell coll. by Murrill, Stockholm. Cuticle a blackish zone as in Romell coll. Caulocystidia present, similar to cheilocystidia, 37-46 x 3-5  $\mu$ , capitate.

Spores in 486 a bit broader than in the coll. from Sweden, identified by Romell (No. 4146).

*Gymnopilus penetrans sapineus*

486 - Murvill, Washington, Battle



Caulo - x 1000

*rapinensis*  
GYMNOPIIUS PENETRANS

No. 2656, Auburn, Ala., 12-21-99, Coll. F. S. Earle, det. by Earle as F. underwoodii Pk., but labeled (on the box) as G. penetrans by Murrill, N.Y.B.G.

Spores 7-8.5 x 4.5-5  $\mu$ , ellipsoid, inequilateral, verrucose, no germ pore. Pleurocystidia ventricose; cheilocystidia flask-shaped, capitate. Gill trama subparallel, (3)5-12  $\mu$  broad. Pileus trama radial. Cuticle a dark brown zone of repent hyphae, bearing numerous mounds of brown hyphae (constituting the brown dots seen on the pileus, with a lens).

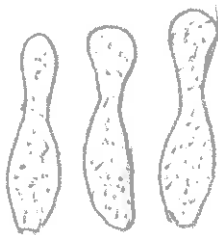
~~The mounds (dots) are characteristic of G. liquoritiae which I would name it if a veil is truly lacking.~~

*refinens*  
GYMNOPIUS PENETRANS

No. 4114. On Picea stumps, Sweden, Murrill, N.Y.B.G.

Spores 7-9 x 4-5  $\mu$ , ~~verruucose~~, no pore. Pleurocystidia and cheilocystidia ventricose, flask-shaped, capitate, not conspicuous. Gill trama subparallel. Subhymenium not distinctive. Pileus trama radial. Cuticle a dark-brown zone of repent hyphae, some uplifted and incrustated.

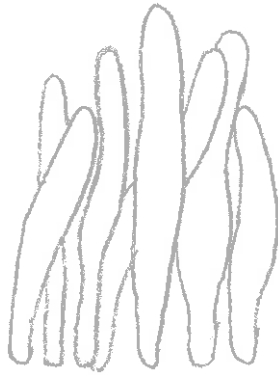
*Gymnopilus penetrans* sapineus  
M E Peck, Salem, Ore., Jan. 1911  
N.Y.B.S.



Basidia - x 1000

Gymnopilus penetrans - sapinea?

Auburn, Ala., Earle (who called it F. sapinea)  
12-21-99.

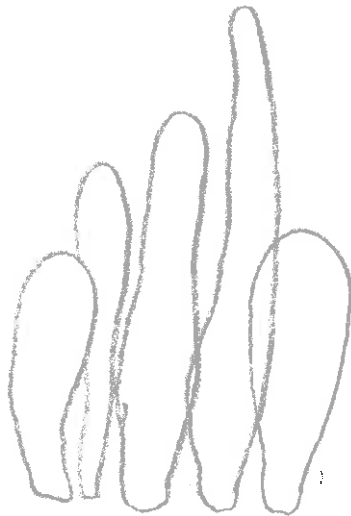


Pilei - x 1000  
as mounds (dots)  
on pileus



*Hammula penetrans*

No. 7, Montgomery, Ala., R.P. Bunte, June 22, 1918.



Caulis - x 1000

Harding-92

*refinens*  
GYMNOPIUS PENETRANS

On decaying hardwood, UMBS, June 28, 1949

Spores 6-8.5 x 4-5(5.5)  $\mu$ . Cuticular surface with a few more or less loosened, incrustated, brown hyphae, the terminal element cystidioid. Otherwise, as in H-76.

Thiers - 4455

GYMNOPIIUS SAPINEUS (Fr.) Maire

On logs, mixed woods, Little Thicket Nature Sanctuary, near Evergreen,  
Texas, Feb. 10, 1957.

Spores 7-9.5 x 4.5-5.5  $\mu$ , dextrinoid. This assumes a yellowish veil.

Thiers - 4688

GYMNOPIIUS SAPINEUS (Fr.) Maire

Scattered to subcespitose, on pine logs, Little Thicket Nature Sanctuary,  
near Evergreen, Texas, Oct. 20, 1957.

Spores 7.5-9.5 x 4.5-5.5  $\mu$ , dextrinoid.

SM - 4922

GYMNOPIUS SAPINEUS (?)

On larch stump, Whitmore Lake, Mich., Sept. 26, 1936.

Spores  $7.5-9 \times 4.5-5.5 \mu$ . The pileus is apparently glabrous.  
No evidence of the veil. It might be hybridus.

SM - 7819

GYMNOPIIUS SAPINEUS (?)

On conifer, Blue River, Ore., Oct. 15, 1937 (det. by Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil traces appear white, and pileus glabrous. Probably penetrans.

SM - 7878

GYMNOPIUS SAPINEUS (?)

On conifer, Blue River, Ore., Oct. 15, 1937 (det. by Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil not found. Pileus appears glabrous.

It might be penetrans.

SM - 7917

GYMNOPIIUS SAPINEUS (?)

On conifer, Blue River, Ore., Oct. 17, 1937. (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . No veil evident. Pileus appears glabrous under lens. Might be penetrans.



SM - 8213

GYMNOPIUS SAPINEUS (?)

On yellow pine, Cave Junction, Ore., Nov. 29, 1937 (det. Harding).

Spores 6.5-8.5(9) x 4.5-5(5.5)  $\mu$ . Cap may be glabrous, and  
it may be penetrans.

Cooke - 8679

GYMNOPIIUS SAPINEUS (?)

On Abies magnifica var. shastensis, near Wagon Camp, Mt. Shasta,  
Calif.; Aug. 27, 1937. (Det. as F. penetrans by Smith, and as sapineus  
by Harding. It is minutely scaly and probably is sapineus.)

Spores 7-9 x 4.5-5  $\mu$ . Veil?

Thiers - 11662      GYMNOPIIUS SAPINEUS (Fr.) Maire

Scattered on conifer log, Fall Creek Area, Idaho, Sept. 4, 1964.

Spores 7.5-9.5 x 4.5-5.5  $\mu$ , dextrinoid.

DAOM - 113242

GYMNOPILUS SAPINEUS

On rotten wood, La Verendrye Park, Quebec, leg. - det. J. W. Groves,  
Sept. 13, 1965.

Spores 7-9.5 x 4.5-5.5(6)  $\mu$ , dextrinoid.

Tenn-13259

GYMNOFILUS SAPINEUS (Fr.) Maire

On oak log, Missouri, J.B. Routien, August 19, 1940

Spores 7-9 x 4-5  $\mu$ . Other characters as in Tenn-20052.

Potter-13937 GYMNOPIUS <sup>capitatus</sup> PENETRANS ~~var. PENETRANS~~

NOTES  
(not found)

On hardwood log, Edgewood, Michigan, August 10, 1962

(Label says "Notes," but none found)

Spores 7-8.5(9.5) x 4.5-5(5.5)  $\mu$ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid. Basidia 23-27 x 6-7  $\mu$ , 4-spored. Pleurocystidia 24-28 x 5-6  $\mu$ , ventricose; cheilocystidia 27-36 x 4-8  $\mu$ , flask-shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 5-8  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent, brown hyphae, with scattered, colorless, filamentous, at times capitate pileocystidia. Caulocystidia in tufts or mounds, a few scattered, 24-46 x 3-5  $\mu$ , colorless, filamentous, capitate. Clamp connections small.

Seems to be penetrans; but if and when notes are found it may turn out to be some other sp.

SM - 17343

GYMNOPIUS SAPINEUS (?)

On conifer, Elwha River, Olympic Mts., Wash., Sept. 27, 1941.

Spores 7-8.5 x 4.5-5.5  $\mu$ . Veil not seen. Cap may be glabrous.

Probably penetrans.

SM - 17833

GYMNOPIUS SAPINEUS (?)

CARD

On conifer debris, Port Ludlow, Wash., Oct. 17, 1941. (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil not seen. Might be penetrans.



SM - 17834

GYMNOPIIUS SAPINEUS (?)

Port Ludlow, Wash. Oct. 13, 1941 (det. Harding).

Spores 7-9.5 x 4.5-5.5  $\mu$ . Veil not observed.

SM - 17835

GYMNOPIIUS SAPINEUS (?)

Port Ludlow, Wash., Oct. 13, 1941.

Spores 7-8.5(9) x 4.5-5  $\mu$ . Veil?

SM - 19586

GYMNOPIIUS SAPINEUS (?)

On conifer, Camas, Wash., Oct. 10, 1944.

Spores 7-8.5 x 4.5-5  $\mu$ . Veil?

SM - 19672

GYMNOPIIUS SAPINEUS (?)

On conifer log, Rhododendron, Ore., Oct. 13, 1944 (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil?

SM - 19722

GYMNOPIUS SAPINEUS (?)

On conifer stub, Rhododendron, Ore., Oct. 14, 1944.

Spores 7-8.5 x 4.5-5  $\mu$ . Veil?

19740

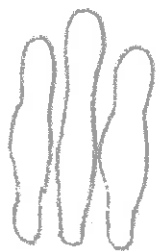
GYMNOPIUS SAPINEUS

On sawdust, Anderson Co., Tenn., Claxton School, Sept. 14, 1950.

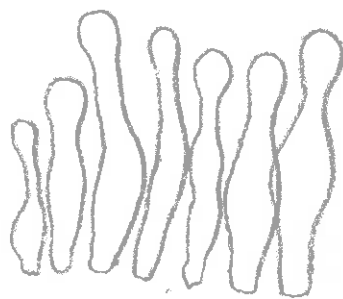
Spores (6) 7-9 x 4-5  $\mu$ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore, dextrinoid (in this, as in some other collections, some 25-40 minutes required to bring out the red color of the spores in Melzer's.). Basidia 23-26 x 5-6  $\mu$ , 4-spored. Pleurocystidia 25-32 x 5-7  $\mu$ , ventricose, few, inconspicuous; cheilocystidia 20-35 x 4-8  $\mu$ , flask shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 4-9  $\mu$  broad; subhymenium of narrow hyphae. Pileus trama of loosely interwoven hyphae. Cuticle repent, bearing tufts of hyphae (scales). Caulocystidia 30-52 x 4-6 (10)  $\mu$ , mostly slender-flask-shaped and capitate, some cylindric-capitate, often septate. Clamp connections present. Pileocystidia 36-60 x 8-12  $\mu$ , clavate, in scattered mounds. Scales present, composed of brown, incrustated fibrils (hyphae).

*Gymnopilus sapineus*

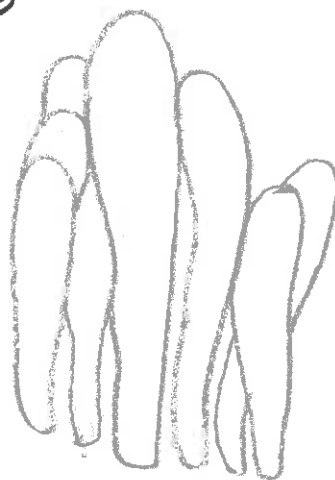
Tenn. - 19740



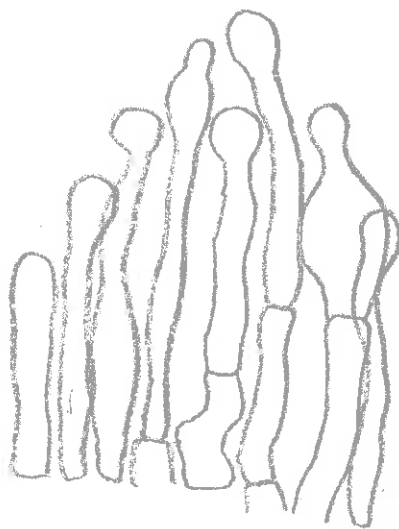
Pl - x 1000



Ch - x 1000



Pileo - x 1000



Caulo - x 1000  
(tuft)

SM - 19909

GYMNOPIUS SAPINEUS (?)

On conifer log, Rhododendron, Ore., Oct. 18, 1944 (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil: slight traces evident--seem to be whitish.



Tenn-20052

GYMNOPIIUS SAPINEUS (Fr.) Maire

On sawdust, Univ. Farm, Knoxville, June 17, 1951

Pileus 3-5 cm, caespitose, "primuline yellow," floccose-scaly, somewhat rimose, somewhat hygrophanous, not viscid. Context concolorous to pileus; taste bitter, odor slight but penetrating

Lamellae broadly adnate with a decurrent tooth, broad, abruptly narrowed in front, at first "primuline yellow," finally "cinnamon rufous," edges eroded.

Stipe 3-6 cm x 4-7 mm, fibrillose, equal or tapering upward, dry, hollow. Veil ample but evanescent, yellowish, leaving a temporary, fibrillose ring.

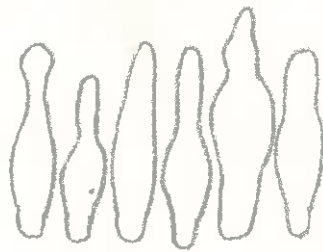
Spores "amber brown" in deposit,  $5.5-7 \times 3.5-4.5 \mu$ , ellipsoid in face view, slightly inequilateral in profile, verruculose. Basidia  $24-28 \times 5-7 \mu$ , 4-spored. Pleurocystidia  $23-32 \times 5-7 \mu$ , ventricose, scattered, inconspicuous; cheilocystidia  $22-33 \times 5-7 \mu$ , ventricose, neck more or less slender, sometimes subcapitate. Gill trama subparallel, hyphae  $4-10 \mu$  broad. Pileus trama radial, ~~subparallel~~. Cuticle a zone of several layers of brown, repent hyphae. Clamp connections present. Caulocystidia none. Pileus and gill trama yellowish in KOH; yellowish brown in Melzer's reagent.

*Gymnosporium sapineus* (Fr.) Maire

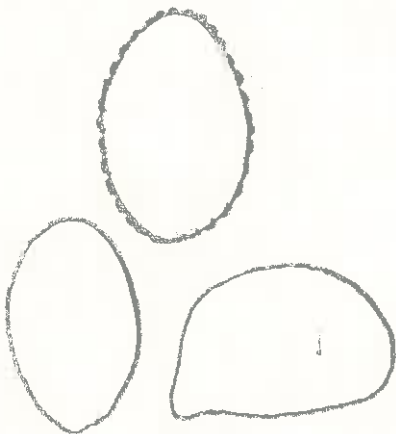
Teru - 20052



Pl - x 1000



Ch - x 1000



Spores - x 4000

SM - 20055

GYMNOPIIUS SAPINEUS (?)

On hemlock, Bonner Co., Idaho, July 11, 1939, leg. A. W. Slipp as No. 1600,  
det. Smith as liquiritiae--but apparently as sapineus by Harding.

Spores 7-9 x 4.5-5.5  $\mu$ . Veil?

SM - 20753

GYMNOPIUS SAPINEUS

On log (basswood?), Ann Arbor, Mich., Sept. 29, 1945. (called G. sapineus by Harding).

Notes by Smith

Cap pale-orange-yellow, glabrous, subhygrophanous. Taste bitter. Lamellae pale yellow, staining rusty orange, not brown-spotted. Stipe concolorous or paler. Veil?

Notes by Hesler

Spores 7-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid, no germ pore. Basidia 22-26 x 6-7  $\mu$ , 4-spored. Pleurocystidia 23-26 x 5-6  $\mu$ , ventricose; cheilocystidia 23-38 x 4-7  $\mu$ , flask-shaped, capitate. Gill trama of subparallel hyphae, 5-9  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle repent, not greatly differentiated, bearing "mounds" of clavate pileocystidia, 27-50 x 6-9  $\mu$ . Clamp connections present. Caulocystidia in tufts, 26-35 x 4-7  $\mu$ , flask-shaped, capitate.

Near aurantiophyllus, but perhaps nearer to sapineus.

SM - 23580

GYMNOPIIUS SAPINEUS (?)

On conifer log, Little Payette Lake, Idaho, Sept. 17, 1947 (det. Harding).

Spores 7-9 x 4.5-5  $\mu$ . Veil?

Smith (notes) says: "Gills subdecurrent, yellow. Stipe yellow, darkening at base. Cap yellow, becoming darker brown."

SM - 23814

GYMNOPIUS SAPINEUS (?)

On conifer logs, Mt. Hood, Ore., Sept. 27, 1946 (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil?

SM - 23869

GYMNOPIIUS SAPINEUS (?)

On conifers, Rhododendron, Ore., Sept. 28, 1946 (det. Harding).

Spores 7-9 x 4.5-5.5  $\mu$ . Veil?

SM - 24503

GYMNOPIIUS SAPINEUS (?)

Mt. Hood Nat. Forest, Ore., Oct. 12, 1946 (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil?



SM - 24507

GYMNOPIIUS SAPINEUS

PHOTO

On sawdust, Welches, Ore., Oct. 13, 1946 (det. Harding).

Spores 7-8(8.5) x 4-5  $\mu$ . Veil arachnoid, yellowish.

SM - 24697

GYMNOPIIUS SAPINEUS (?)

On conifers, Salmon River, above Welches, Ore., Oct. 15, 1946.

Spores 7-9 x 4.5-5.5  $\mu$ . Veil?

SM - 25429

GYMNOPIIUS SAPINEUS

On conifer log, Douglas Lake, Mich., July 3, 1947 (det. Harding).

Spores 6.5-8 x 4-5  $\mu$ . Pileus minutely scaly.

SM - 26663

GYMNOPILUS SAPINEUS (?)

On conifer log, Mt. Hood, Ore., Sept. 20, 1947 (det. Harding).

Spores 7-9 x 4.5-5.5  $\mu$ . Veil?

SM - 27246

GYMNOPIUS SAPINEUS (?)

Mt. Hood Nat. Forest, Ore., Oct. 3, 1947 (det. Harding).

Spores 7-9 x 4.5-5.5  $\mu$ . Veil?

SM - 27768

GYMNOPIIUS SAPINEUS (?)

Mt. Hood Nat. Forest, Ore., Oct. 15, 1947.

Spores 7-9 x 4.5-5.5  $\mu$ . Veil.?

SM - 30533

GYMNOPIUS SAPINEUS (?)

On conifer log, Mt. Rainier Nat. Park, Wash., Aug. 23, 1948 (det. Harding).

Spores 7-8.5 x 4.5-5(5.5)  $\mu$ . Veil?

SM - 30765

GYMNOPIIUS SAPINEUS (?)

On conifer woods, Mt. Rainier Nat. Park, Wash., Aug. 30, 1948.

Spores 7.5-8.5 x 4.5-5.5  $\mu$ . Veil?



SM - 34972

GYMNOPIIUS SAPINEUS (?)

On conifer logs, Pole Mt., Wyoming, July 20, 1950 (det. Solheim).

Spores 7.5-9 x 4.8-5.5  $\mu$ . Veil?

SM - 35294

GYMNOPIIUS SAPINEUS

On conifer log, Medicine Bow Mts., Wyoming, July 29, 1950 (det. Harding)

Spores 7-8.5 x 4.5-5(5.5)  $\mu$ . Pileus minutely scaly.

Harding - 163 GYMNOPIIUS SAPINEUS F. PENETRANS (F.) Harding

On Arbor Vitae wood, Pinckney, Mich., July 13, 1949. Leg.-det. Harding.

Spores 7-9 x 4.5-5  $\mu$ . Veil? Pileus appears glabrous. (Evidently Harding decided to follow Fr.; then, in his thesis, changed his mind and placed the combination in synonymy under G. sapineus.)

Harding - 431      GYMNOPIUS SAPINEUS f. PENETRANS

On conifer wood, Whitmore Lake, Oct. 5, 1950.

Spores 7-9 x 4.5-5  $\mu$ . (see comments under Harding - 163)

SM - 7990

GYMNOPIUS SAPINEUS f. PENETRANS

On conifer, South Fork MacKenzie River, Oct. 20, 1937 (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil? (See Harding - 163)

SM - 20814

GYMNOPIUS SAPINEUS f. PENETRANS

On pine debris, Ann Arbor, Mich., Sept. 30, 1945.

Spores 7-9.5 x 4.5-5(5.5)  $\mu$ . Veil? Cap appears glabrous;  
probably penetrans.

SM - 21194

GYMNOPIIUS SAPINEUS f. PENETRANS

On oak, Pinckney, Mich., Oct. 6, 1945 (det. Harding.

Spores 7-8.5 x 4.5-5  $\mu$ . Veil? Cap glabrous; probably penetrans.

SM - 23598

GYMNOPIUS SAPINEUS f. PENETRANS

On conifer debris, Little Payette Lake, Idaho, Sept. 17, 1946 (det. Harding).

Spores 7-8.5 x 4.5-5  $\mu$ . Veil? Cap glabrous; probably penetrans.



SM - 8212

GYMNOPIIUS SAPINEUS f. SAPINEUS

Cave Junction, Ore., Nov. 29, 1937 (det. Harding).

Spores 7-9 x 4.5-5(5.5)  $\mu$ .

Smith's notes: "Veil present, caps minutely scaly, up to 15 cm broad." This is sapineus.

SM - 28261 GYMNOPIUS SAPINEUS f. SAPINEUS (Fr.) Harding CARD

On sawdust pile, above Welches, Ore., Oct. 29, 1947 (det. Harding).

Spores 7-9 x 4.5-5.5  $\mu$ . Pileus scaly; veil yellow. This is  
sapineus.

FLAMMULA SAFINEA

Sleepy Hollow, N.Y., 6-25-16, N.Y.B.G.

Spores (6.5)7-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, no germ pore. Basidia 24-28 x 6-7  $\mu$ , 4-spored. Pleurocystidia 25-33 x 5-8  $\mu$ , scattered, ventricose, at times capitate; cheilocystidia 24-30 x 5-7  $\mu$ , ventricose, sometimes capitate. Cuticle of brown, repent hyphae, with some surface hyphae incrustated (scales).

*Pholiota*

FLAMMULA SAPINEA

Stamford, Conn., 8-19-15, N.Y.B.G.

(This is a Pholiota)

Spores 5.5-7 x 4-4.5  $\mu$ , ellipsoid, smooth, germ-pore minute. Pleurocystidia 36-62 x 9-12  $\mu$ , flask-shaped; cheilocystidia 27-36 x 6-7  $\mu$ , flask shaped to subcylindric. Gill trama a mediostrate, flanked by a gelatinous zone. Cuticle gelatinous.

Pholiota

FLAMMULA SAPINEA

Cold Springs Harbor, 1912, N.Y.B.G.

(This is a Pholiota)

Spores smooth, with a germ pore.

*Pholiota*

FLAMMULA SAPINEA

Bear Mt., N.Y. 7-28-17, N.Y.B.C.

(This is a Pholiota)

Spores smooth.

Galerina

FLAMMULA SAPINEA ?

No. 3, Pettinger's Woods, Pittsford, N.Y., Oct. 29, 1913.

Not F. sapinea; spores 8-10.5 x 5-5.5  $\mu$ , ellipsoid to ovoid, subinequilateral, many calyptrate, germ pore present. This is a Galerina.

*Pholiota*

FLAMMULA SAPINEA

Great Kills, Staten Island, 7-24-15, N.Y.B.G.

This has smooth spores; it is a Pholiota.



Pholiota

FLAMMULA SAPINEA

Cold Spring Harbor, N.Y., 9-3-15, N.Y.B.G.

This has spores and cystidia of a Pholiota; it might  
be P. (Flammula) polychroa.

- G.B. ~~Trukey~~. Jan. 23, '67  
L.

*Pholiota*

FLAMMULA SAPINEA

New Rochelle, Sept. 22, 1915, R. A. Harper

(This is a Pholiota)

Spores 6-7.5 x 3.5-4.5  $\mu$ , ellipsoid-ovoid, more or less inequilateral to bean shaped, smooth, germ pore present. Pleurocystidia 46-66 x 7-12  $\mu$ , ventricose to flask-shaped, conspicuous; cheilocystidia similar, smaller. Gill trama a mediostrate flanked by a gelatinous zone. Cuticle a gelatinous zone.

This is a Pholiota.

*Pholiota*  
FLAMMULA SAPINEA

Bear Mtn., 8-9-16, N.Y.B.G.

Spores smooth. This is not F. sapinea; it is a  
Pholiota.

*Pholiota*

FLAMMULA SAPINEA

Red Gate (N.Y. ?), 7-27-16, N.Y. B.G.

Spores smooth; it is a Pholiota.

Pholiota

FLAMMULA SAPINEA

Sound Beach, Conn., 10-31-15, N.Y.B.G.

Has smooth spores; it is a Pholiota.

Pholiota

FLAMMULA SAPINEA

Richmond, L.I., N.Y., 11-2-15, N.Y.B.G.

This has smooth spores; it is a Pholiota.

Tricholoma?

FLAMMULA SAPINEA

Cold Spring Harbor, 8-1-16, N.Y.B.G.

This has colorless spores; may be a Tricholoma.  
Probably the same species as one from Pelham Manor,  
Aug. 20, 1916.

*Tricholoma?*

FLAMMULA SAPINEA

Pelham Manor, Aug. 20, '16, N.Y.B.G.

(This may be a Tricholoma)

Spores 9-11 x 3.5-4.5  $\mu$ , elongate, smooth, colorless.

(This is not a Flammula). Same as a collection  
from Cold Spring Harbor, 8-1- '16.



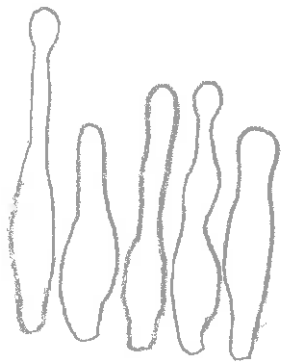
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127.

FLAMMULA SAPINEA Fr.

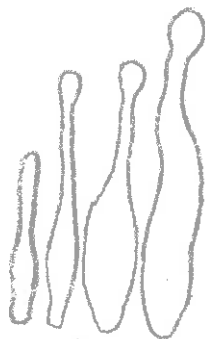
On dead Pinus radiatus, Oakland Hills, Calif., Coll. Wm. Lucke, Det. E. Morse and U. Mentzer, Jan. '34 (N.Y. Bot. Gard. 127).

Spores 7-9 x 4.5-5.5  $\mu$ , ellipsoid, verruculose, germ pore none, ferruginous in 2% KOH, red-brown in Melzer's. Basidia 24-28 x 6-7  $\mu$ , 4-spored. Pleurocystidia 28-42 x 5-7  $\mu$ , ventricose or flask shaped, often capitate; cheilocystidia 22-42 x 3-7  $\mu$ , similar. Gill trama subparallel, hyphae 4-8 (12)  $\mu$  broad. Subhymenium not distinctive. Pileus trama radial. Cuticle a zone of reddish-brown, repent hyphae, bearing bundles of brown incrustated hyphae (scales). Clamp connections present.

*Hammula sapinea* Fr.  
(nyss-127)



Sp - x 1000



Ch - x 1000

Sipe-1040-b

GYMNOPIIUS SAPINEUS

Under fir, near Eugene, Oregon, November 5, 1947

Notes by Sipe

Pileus 5-7 cm, smooth, yellow (tawny, paler yellow toward edge), innately minutely scaly.

Gills yellow.

Stipe yellow or reddish streaks, slender.

Spores "Mars yellow."

Notes by Hesler

Spores 6-8(8.5) x 4-5(5.5)  $\mu$ , ellipsoid, slightly inequilateral, verruculose, ferruginous in KOH, dextrinoid. Basidia 24-30 x 5-6  $\mu$ , 4-spored. Pleurocystidia 24-28 x 5-6  $\mu$ , ventricose; cheilocystidia 24-47 x 3-6  $\mu$ , flask-shaped, capitate. Gill trama of subparallel hyphae, 4-8  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle fibrillose, of brown incrustated hyphae; pileocystidia rare, ventricose, brown, 32-40 x 6-8  $\mu$ . Clamp connections present. Caulocystidia 26-37 x 3-4  $\mu$ , filamentous, capitate, scattered.

Identification assumes bitter taste and the presence of a veil.

Sipe-1272

GYMNOPIIUS SAPINEUS

On rotted log, Eugene, Oregon, October 1959

Notes by Sipe

Pileus 2-3 cm broad, with fine fibrils, minutely scaly, ochraceous orange with darker spots, margin incurved. Context thin, light yellow.

Lamellae emarginate, concolorous.

Stipe hollow, slender, tough.

Spore cinnamon, 8-9 x 6-7  $\mu$ .

Notes by Hesler

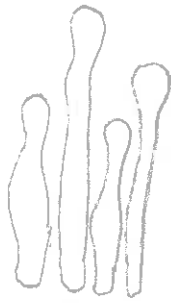
Spores (6.5)7.5-9 x (4)4.5-5.5  $\mu$ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid. Basidia 25-28 x 5-6  $\mu$ , 4-spored. Pleurocystidia 23-28 x 5-7  $\mu$ ; cheilocystidia 22-37 x 4-6  $\mu$ , some cylindric-capitate, others flask-shaped, capitate. Gill trama subparallel, 4-7  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle fibrillose, with tufts (scales) of brown, incrusted hyphae. Clamp connections present. Caulocystidia 25-40 x 3-7  $\mu$ , ventricose or flask-shaped or filamentous, scattered or in tufts, capitate. Pileocystidia 24-53 x 3-7  $\mu$ , filamentous, ventricose, at times capitate, scattered.

*Gymnosilus sapsineus*

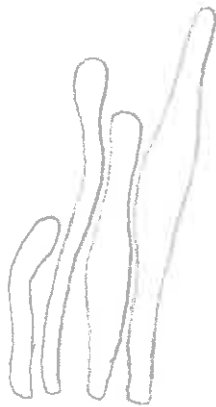
Sipe - 1272



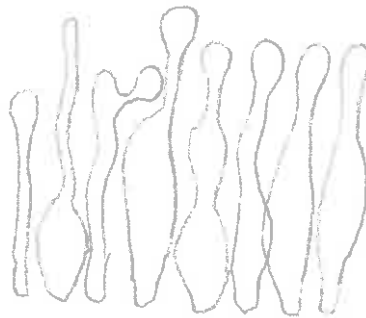
Pl. - x 1000



Ch - x 1000



Piles - x 1000



Caulo - x 1000

Bigelow-3161

GYMNOPILUS SAPINEUS

Gregarious on conifer wood, in Sphagnum bog, near Sinclair,  
Maine, July 10, 1956.

(No notes found)

Notes by Hesler

Spores 6-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid, no pore. Basidia 22-26 x 5-6  $\mu$ , 4-spored. Pleurocystidia ventricose; cheilocystidia 27-36 x 6-7  $\mu$ , flask-shaped, capitate. Gill trama of subparallel hyphae, 3-6  $\mu$  broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle repent with a few more or less erect, brown, incrustated hyphae; pileocystidia brown, clavate, in mounds. Caulo-  
cystidia 20-37 x 2-3.5  $\mu$ , cylindric-capitate; gregarious. Clamp connections present.

This assumes the presence of a scanty veil.

Thiers-3292

GYMNOPIIUS SAPINEUS

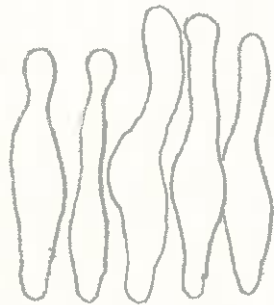
On hardwood log, near Mackinaw City, Michigan, H. D. Thiers,  
July 16, 1956 (labelled Flammula limulata).

Dried, the pileus is minutely fibrillose, rusty-ferruginous.

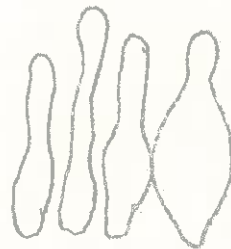
Spores 7-9 x 4.5-5.5  $\mu$ , ellipsoid in face view, inequilateral in profile, verruculose, no germ pore. Basidia 24-30 x 6-7  $\mu$ , 2-4-spored. Pleurocystidia 32-37 x 5-8  $\mu$ , ventricose, or slender-bottle-shaped, apices often capitate; cheilocystidia 24-30 x 4-7(12)  $\mu$ , similar. Gill trama subparallel, hyphae 5-10  $\mu$  broad. Pileus trama radial. Cuticle repent, bearing brown, sometimes incrusting, epicuticular hyphae, often in tangled tufts (scarcely forming scales). Clamp connections present. Caulocystidia in tufts, 28-42 x 2-6  $\mu$ , filiform to subulate (with bases slightly enlarged and apices capitate), or clavate, often with a brown pigment. Pileus and gill trama yellowish in KOH; pale brownish in Melzer's reagent.

Need notes. This identification assumes the presence of a fugaceous veil.

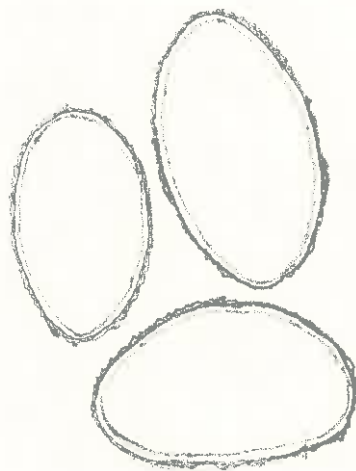
*Plammula* ? *Gymnopilus sapineus* (?)  
 (labelled *F. limulata* ?)  
 (Thiers - 3292)



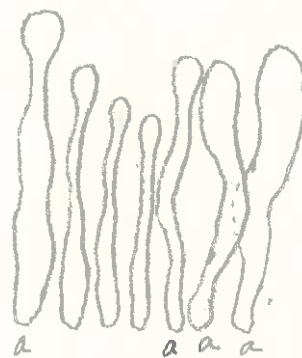
As - x 1000



Ch - x 1000



Spores - x 4000



Caulo - x 1000  
 (a) brownish



Bigelow-3316

GYMNOPIUS SAPINEUS

On conifer log, Mud Lake, Sinclair, Maine, July 17, 1956.

(Same as Sm-44155).

Kew-3385

FLAMMULA SAPINEA

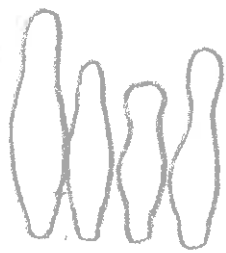
Ex. Herb. A. A. Pearson, Kew, det. Romagnesi, date? (this coll. originally from Herb. Univ. Lisbon, thence to Pearson's Herb., finally to Kew Herb.). Borrowed from Kew, Feb., 1967.

Spores 7.5-10 x 4.5-5.5  $\mu$ , ferruginous in KOH, dextrinoid after 30 min. Pleurocystidia 21-30 x 6-7  $\mu$ , ventricose; cheilocystidia 22-37 x 3-7  $\mu$ , flask-shaped, capitate or subcapitate. Pileocystidia none. (No stipe material present in packet; caulocystidia?)

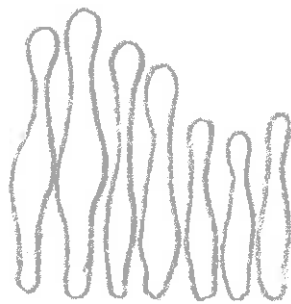
*Hammula sapinea*

Kew - 3385

(Herb. A.A. Pearson)



Pl - x 1000



Ch - x 1000

Shaffer-3505

GYMNOPILUS SAPINEUS

On rotten log, in mixed woods, Windham Co., Vt., Aug. 30, 1961.

Notes by Shaffer

Pileus ochraceous orange; odor not distinctive, taste bitter.

Lamellae subdecurrent, narrow, crowded, yellow.

Stipe antimony-yellow to warm-buff, hollow.

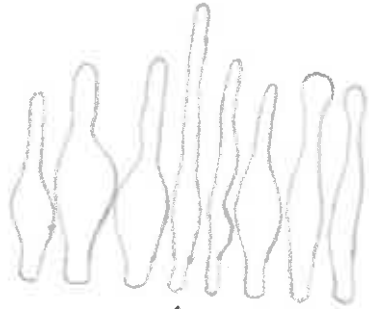
Notes by Hesler

Spores 6.5-8.5 x 4.5-5  $\mu$ , ellipsoid, inequilateral, verrucose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 25-30 x 6-7  $\mu$ , 4-spored. Pleurocystidia 20-27 x 5-8  $\mu$ , ventricose to flask-shaped; cheilocystidia 24-38 x 2-8  $\mu$ , flask-shaped, often slender, non-capitate, more rarely subcapitate. Gill trama of subparallel hyphae, 6-12  $\mu$  broad; subhymenium not distinctive. Pileus trama of more or less radial hyphae. Cuticle a broad zone of interwoven, rusty brown, often incrustated hyphae, bearing pileocystidia, 24-33 x 3-9  $\mu$ , cylindric to clavate. Caulocystidia in mounds, 10-42 x 2-6  $\mu$ , cylindric to clavate. Clamp connections present.

*Gymnopilus subflavidellus* sp. nov.  
*rapineus*  
Shaffer - 3505



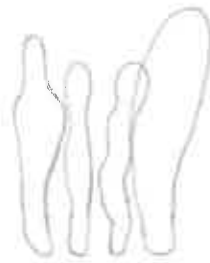
Pt - x 1000



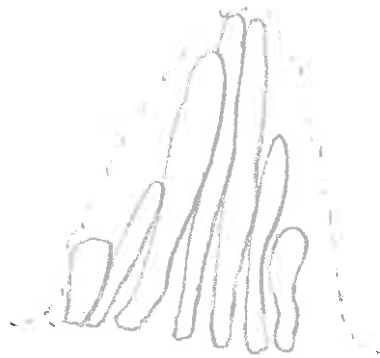
Ch - x 1000



Basidium -  
x 1000



Pileo - x 1000



Caulo - mound  
x 1000

Bigelow-3664

GYMNOPIUS SAPINEUS

On humus, cespitose, near Guerette, Maine, July 30, 1956.

Notes by Bigelow

Cap convex, with appressed matted-fibrillose, veil  
fibrils on incurved margin. Taste bitter.

Lamellae pale yellow at first.

Notes by Hesler

Same as Shaffer-3505.

Solheim-3853

GYMNOPILUS SAPINEUS

On rotting conifer wood, Grand Teton Nat'l. Park, Wyo.,  
July 4, 1955.

Spores 7-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, ferruginous, dextrinoid. Pleurocystidia 30-33 x 6-7  $\mu$ , ventricose; cheilocystidia 28-37 x 4-6  $\mu$ , flask-shaped, capitate. Gill trama of subparallel hyphae, 4-8  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle fibrillose, terminal elements as brown, clavate to flask-shaped, pileocystidia. Caulocystidia cylindric, capitate.

Mazzer-4275

GYMNOPILUS SAPINEUS

On wood, along bog, margin, Otis Lake, Barry Co., Michigan,  
(date ?).

Spores 7-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, ferruginous in KOH, dextrinoid, no pore. Basidia 20-24 x 6-7  $\mu$ , 4-spored. Pleurocystidia 22-25 x 5-6  $\mu$ , ventricose; cheilocystidia 20-36 x 4-6  $\mu$ , ventricose or flask-shaped, capitate, many with brown contents. Gill trama of subparallel hyphae, 4-9  $\mu$  broad; subhymenium not distinctive. Pileus trama of radial-interwoven hyphae. Cuticle of repent hyphae, with brownish, incrustated fibrils. Pileocystidia 23-26 x 2-4  $\mu$ , scattered, brownish. Caulocystidia 30-37 x 4-5  $\mu$ , cylindric-capitate, scattered or in tufts.



Solheim-4344

GYMNOPILUS SAPINEUS

On rotting conifer wood, Laramie Mts., Albany Co., Wyo.,  
Alt. 8100 ft., August 16, 1955.

Notes by Solheim

Pileus Spice to Peruvian Brown (Pl. 13) in upper 2/3, more probably hygrophanous, lower part Honey-Sweet to Inca Gold (Pl. 11) to Honey (Pl. 12), somewhat matted-fibrillose. Odor and taste fairly strong, disagreeable.

Lamellae medium broad, close.

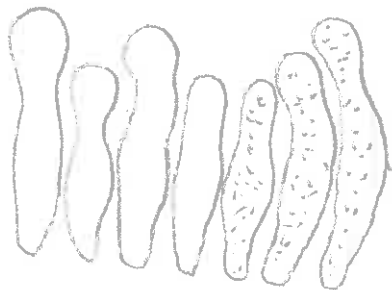
Stipe white to Ivory (Pl. 10) to disc ? (Pl. 10), white longitudinally silky white fibrils, base white-mycelioid.

Notes by Hesler

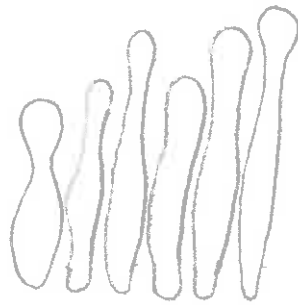
Spores 7-9 x 4.5-5.5  $\mu$ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid. Basidia 26-30 x 6-8  $\mu$ , 4-spored. Pleurocystidia 25-35 x 4-7  $\mu$ , ventricose, colorless or the longer, more slender ones with brown contents; cheilocystidia 28-38 x 4-7  $\mu$ , ventricose subcapitate to capitate. Gill trama of subparallel to slightly interwoven hyphae, 3-6  $\mu$  broad; subhymenium not distinctive. Pileus trama radial-interwoven. Cuticle a broad zone of brown hyphae, with a tangle of epicuticular hyphae, the terminal elements as pileocystidia, 34-42 x 4-5  $\mu$ , clavate, slender flask-shaped, capitate to non-capitate. Caulocystidia 25-42 x 5-8  $\mu$ , gregarious or scattered, cylindric, ventricose, or slightly irregular, colorless, capitate.

*Gymnopus sapineus*

Solheim - 4344



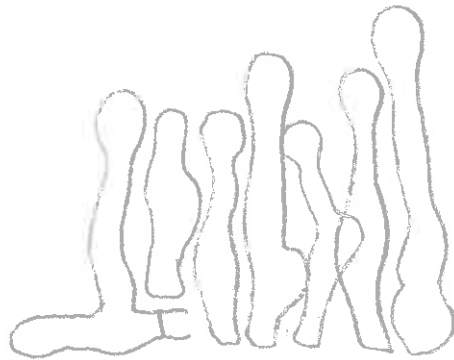
Clubless brown  
Pl - x 1000



Ch - x 1000



Pileo - x 1000



Carb - x 1000

Imms-4858

GYMNOPIUS SAPINEUS

On wood, Falls River, L'Anse, Barage Co., Michigan, September 10, 1949

Notes by Imshaug

Pileus convex, pale-cinnamon. Lamellae subdecurrent, yellowish, flecked cinnamon. Stipe yellowish brown.

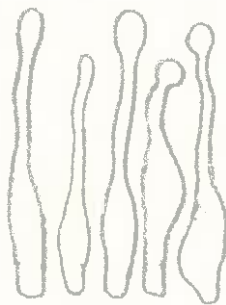
Notes by Hesler

Spores 6-8.5(9) x 4.5-5.5  $\mu$ , ellipsoid in face view, slightly inequilateral in profile, distinctly dextrinoid, verruculose, no germ pore. Basidia 25-32 x 5-6  $\mu$ , 4-spored. Pleurocystidia none; cheilocystidia 30-38 x 4-6  $\mu$ , flask-shaped, neck slender and more or less capitate. Gill trama subparallel, hyphae 6-12  $\mu$  broad. Pileus trama radial-interwoven. Cuticle of repent, brown, incrusting hyphae, bearing, at very rare intervals, pileocystidia similar to cheilocystidia. Caulocystidia 36-65 x 3-5  $\mu$ , more or less similar to cheilocystidia, often in a palisade. Clamp connections present.

~~Pholista~~

*Gymnopilus sapineus*

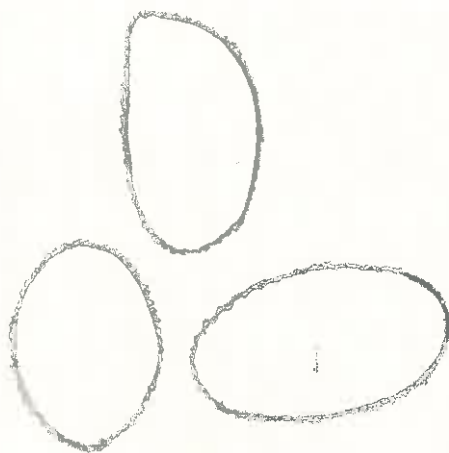
OMA - 4858



Ch - x 1000



Pils - x 1000



Spores - x 4000



Caulo - x 1000

Solheim-4892

GYMNOFILUS SAPINEUS

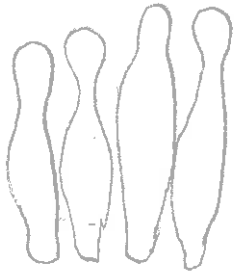
On rotting wood, Grand Teton Nat'l. Park, Wyo., June 30, 1957.

(A slight <sup>veil</sup> is assumed to have been present in identifying this as sapineus).

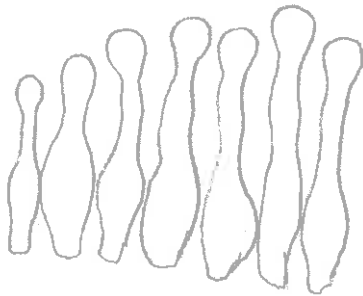
Spores 7.5-9(9.5) x 4.5-5  $\mu$ , ellipsoid, dextrinoid. Pleurocystidia 29-34 x 6-8  $\mu$ , ventricose, at times capitate; cheilocystidia 22-37 x 4-8  $\mu$ , flask-shaped, capitate, a few with brown contents. Gill trama of subparallel hyphae, 3-6  $\mu$  broad. Pileus trama radial. Cuticle fibrillose, of brown, incrusted hyphae; pileocystidia not found. Caulocystidia 33-52 x 5-10  $\mu$ , more or less irregularly filamentous-cylindric, capitate, as a turf.

*Gymnophylus sapineus*

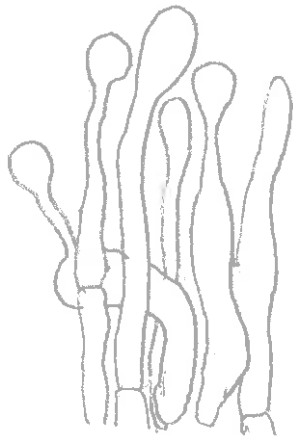
Folheim - 4892



Fl - x 1000



Ch - x 1000



Canlo - x 1000

Sm-9302

GYMNOPIIUS SAPINEUS

Oregon Cave Road, Oregon, December 1, 1937, det. Harding

(Same as Sm-44155).

Sm-20825

GYMNOPILUS SAPINEUS

On oak, Ann Arbor, Michigan, October 1, 1945

(Same as Sm-44155).



Sm-40512

GYMNOPIIUS SAPINEUS

On conifer, Carbon River, MRNP, Washington, Oct. 2, 1952

(Same as Sm-44155). Small specimens (up to 1 cm).

Sm-42048

GYMNOPIIUS SAPINEUS

On conifer log, U. M. Biol. Station, August 14, 1953.

(Same as Sm-44155).

Sm-43233

GYMNOPIIUS SAPINEUS

On conifer log, Wilderness State Park, Mich., Sept. 24, 1953

(Same as Sm-44155). Smith (on label) says: bright  
yellow fulvous.

Sm-44155

GYMNOPIUS SAPINEUS

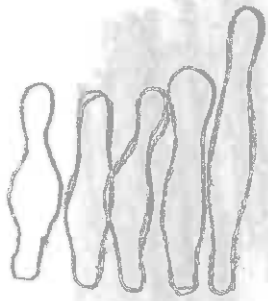
On pine log, Payette Lakes, Idaho, June 25, 1954

Spores 6.5-8.5(9) x 4.5-5(5.5)  $\mu$ , ellipsoid in face view, slightly inequilateral in profile, verrucose, ferruginous in KOH, dextrinoid at once, germ pore none. Basidia 25-30 x 6-7  $\mu$ , 4-spored. Pleurocystidia 24-37 x 6-7  $\mu$ , ventricose, subcapitate. Gill trama of subparallel hyphae, 2-5  $\mu$  broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, bearing bundles of brown, incrusted hyphae (scales). Pileocystidia none. Caulocystidia 25-65 x 4-5  $\mu$ , as terminal elements of epicuticular hyphae, colorless, filamentous, capitate. Clamp connections present.

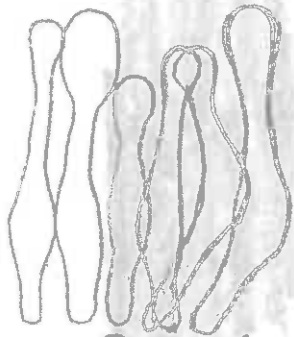
Veil arachnoid, whitish (in dried basidiocarp), evanescent.

*Gymnosporium sapineum*

Sm. 44155



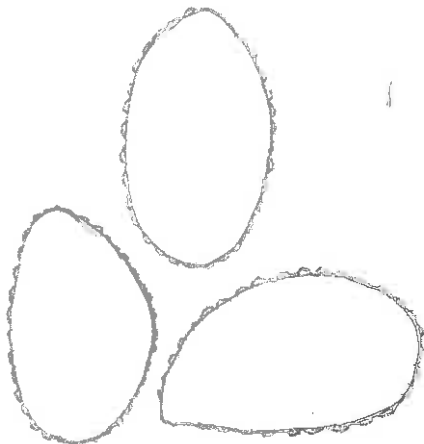
As - x 1000



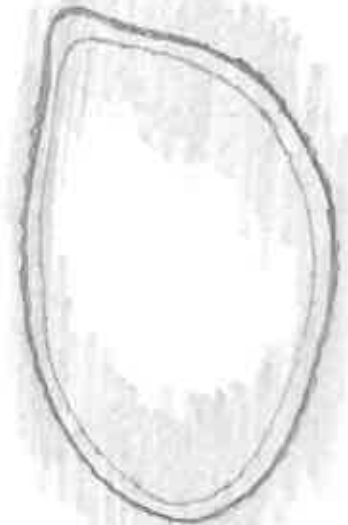
As - x 1000



Asco - x 1000



Spore - x 4000



Spore - x 8000

Sm-44255

GYMNOPIIUS SAPINEUS

On conifer log, Payette Lakes, Idaho, June 28, 1954

Veil arachnoid, whitish, evanescent.

(Same as Sm-44155).

Sm-44333

GYMNOPIIUS SAPINEUS

On conifer log, Payette Lakes, Idaho, June 28, 1954.  
(Labelled "glabrous form," by AHS).

(Same as Sm-44155). In pileus sections, the cuticle bears brown, incrustated, epicuticular hyphae bundles (minute scales), as in Sm-44155.

Sm-44608

GYMNOPIIUS SAPINEUS

Secesh River, Idaho, July 4, 1954

(Same as Sm-44155).



Sm-44615

GYMNOPIIUS SAPINEUS

Secesh River, Idaho, July 4, 1954

(Same as Sm-44155).

Sm-44912

GYMNOPIUS SAPINEUS

On conifer wood, Payette Lakes, Idaho, July 13, 1954

(Same as Sm-44155).

45015  
Sm-45105

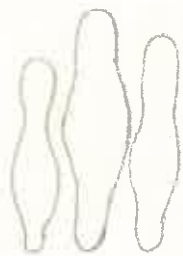
GYMNOPIIUS SAPINEA (Fr.) Kummer

On conifer log, Payette Lakes, Ida., July 16, 1955.

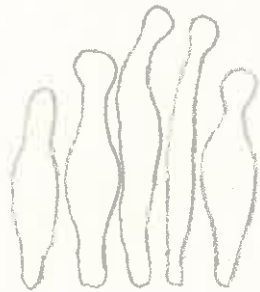
Spores 6-8.5(9) x 4-5  $\mu$ , ellipsoid, more rarely subovoid in face view, inequilateral in profile, wrinkled to verruculose, no germ pore, ferruginous in KOH, yellow-brown in Melzer's reagent, then dextrinoid after 5 minutes. Basidia 23-30 x 6-7  $\mu$ , 2-4-spored. Pleurocystidia 25-32 x 6-9  $\mu$ , ventricose, buried, scattered, inconspicuous; cheilocystidia 25-38 x 3-7  $\mu$ , ventricose, often more or less capitate. Gill trama subparallel, hyphae 3-5  $\mu$  broad. Pileus trama radial. Cuticle of repent hyphae, bearing bundles or tufts of brown, incrusting hyphae (scales). Clamp connections present. Caulocystidia 50-85 x 2.5-7  $\mu$ , filamentous to broader-ventricose, capitate, forming a tangled turf.

*Flammula sapinea*

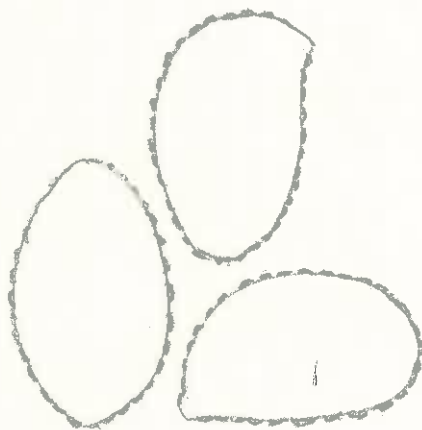
Sm - 45015



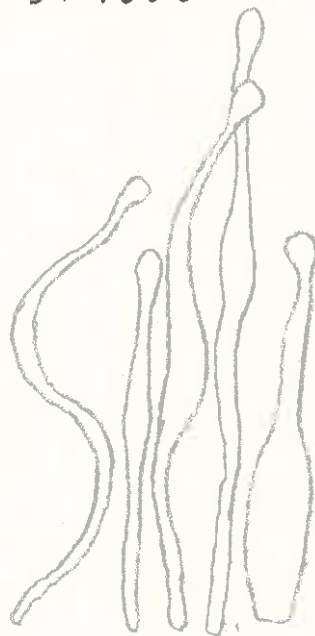
Pl -  $\times 1000$



Ch -  $\times 1000$



Spores -  $\times 4000$



Caulo -  $\times 1000$

Sm-45082

GYMNOPIIUS SAPINEUS

On conifer log, Payette Lakes, Idaho, July 17, 1954

(Same as Sm-44155).

Sm-45134

GYMNOPIIUS SAPINEUS

On conifer log, Payette Lakes, Idaho, July 18, 1954

(Same as Sm-44155).

Sm-45137

GYMNOPIIUS SAPINEUS

On conifer wood, Payette Lakes, Idaho, July 18, 1954

(Same as Sm-44155).

Sm-45376

GYMNOPIIUS SAPINEUS

On conifer wood, 7-Devils Mts., Idaho, July 26, 1954

(Same as Sm-44155).



Sm-45467

GYMNOPIIUS SAPINEUS

Payette Lakes, Idaho, July 29, 1954

(Same as Sm-44155).

Sm-45471

GYMNOPIIUS SAPINEUS

Payette Lakes, Idaho, July 29, 1954

Smith says (on label): "dark tawny, moist, glabrous."

He identified it doubtfully as sapineus.

Sections of pileus reveal epicuticular, brown, incrustated hyphae, more or less in bundles (scales).

(Same as Sm-44155).

Sm-45876

GYMNOPIIUS SAPINEUS

South Fork, Lake \_\_\_\_\_ (?), Idaho, August 3, 1954

(Same as Sm-44155).

Sm-46114

GYMNOFILUS SAPINEUS

Little Payette Lakes, Idaho, August 9, 1954

(Same as Sm-44155).

Sm-46377

GYMNOPIIUS SAPINEUS

On conifer log, Stanley Lake, Idaho, August 19, 1954

(Same as Sm-44155).

Sm-47323

GYMNOPIIUS SAPINEUS

On conifer, Papoose Creek, 7-Devils Mts., Idaho, Sept. 3, 1954

(Same as Sm-44155).

Sm-48159

GYMNOPIUS SAPINEUS

On conifer wood, MRNP, Carbon River, Washington, (date ?)

Notes by Smith

Pileus disc ochraceous tawny, margin warm buff.

Lamellae depressed-adnate, near pinkish buff, broad, close.

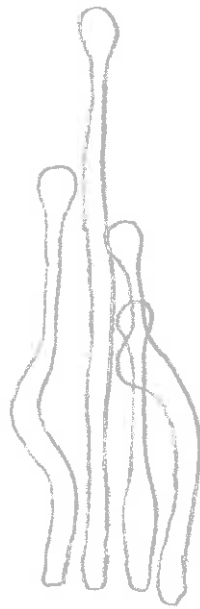
Stipe honey above, darker honey below. Veil thin.  
(Sapineus-group).

Notes by Hesler

Spores 7-8.5(9) x 4.5-5.5  $\mu$ , ellipsoid, slightly inequilateral, verruculose, ferruginous in KOH, dextrinoid. Basidia 26-32 x 6-7  $\mu$ , 4-spored. Pleurocystidia 22-26 x 6-7  $\mu$ , ventricose; cheilocystidia 22-38 x 5-7  $\mu$ , flask-shaped, capitate. Gill trama of subparallel hyphae, 3-5  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle repent, fibrillose, fibrils brown, incrustated, with bundles of hyphae (scales). Pileocystidia as terminal, clavate elements. Caulocystidia 38-76 x 3-6  $\mu$ , filamentous to slightly ventricose or slender flask-shaped, capitate, scattered.

*Gymnopilus sapineus*

Sm - 48159



Carlo -  
X 1000



Sm-48540

GYMNOPIIUS SAPINEUS

On conifer log, MRNP, Power House, October 5, 1954

Smith says (on label): veil present. I also found  
a whitish veil. (Same as Sm-44155).

Sm-49183

GYMNOPIUS SAPINEUS

On conifer log, Ashford, Washington, October 18, 1954

Notes by Smith

Pileus pale ochraceous orange, faintly scurfy.

No veil evident. Taste bitter.

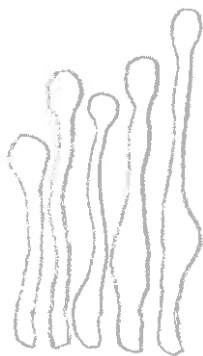
Notes by Hesler

Spores 7.5-8.5(9) x 4.5-5(5.5)  $\mu$ , slightly inequilateral, dextrinoid, ferruginous in KOH, verruculose. Basidia 20-26 x 6-7  $\mu$ , 4-spored. Pleurocystidia 23-27 x 6-8  $\mu$ , ventricose; cheilocystidia 18-32 x 3-6  $\mu$ , flask-shaped, capitate. Pileocystidia broadly clavate or pyriform, more or less in mounds. Caulocystidia 27-46 x 4-5  $\mu$ , filamentous to slender-flask-shaped, capitate, in a turf.

A slight ~~ve~~ veil may have been present in the button stage.

*Gymnopus sapineus*

Sm - 49183



Cauls (in turf)  
x 1000

Sm-50119

GYMNOPIIUS SAPINEUS

*Mich.*  
Tahquamenon, August 11, 1955  
^

(Same as Sm-44155).

Sm-51927

GYMNOPIIUS SAPINEUS

On spruce, Ophir Valley, Colorado, August 7, 1956

(Same as Sm-44155).

Sm-52533

GYMNOPIIUS SAPINEUS

On conifer wood, Trout Lake, San Juan Mts., Colo, Aug. 19, 1956

Smith (on label) says veil slight.

(Same as Sm-44155).

Sm-53392

GYMNOPIUS SAPINEUS

On conifer log, Papoose Creek, Idaho, Sept. 12, 1956.

(Same as Sm-44155). Smith says veil thin.

Sm-53407

GYMNOPIIUS SAPINEUS

On conifer log, Papoose Creek, Idaho, Sept. 12, 1956.

(Same as Sm-44155).



Sm-53579

GYMNOPIIUS SAPINEUS

On conifer wood, Payette Lakes, Idaho, Sept. 20, 1956.

(Same as Sm-44155).

Sm-53767

GYMNOPIUS SAPINEUS

Priest Lake, Idaho, September 30, 1956

(Same as Sm-44155).

Sm-55143

GYMNOPIIUS SAPINEUS

On conifer wood, Priest Lake, Idaho, October 20, 1956.

(Same as Sm-44155).

Sm-55464

GYMNOPILUS SAPINEUS

On conifer wood, Grants Pass, Oregon, November 11, 1956.

Smith says: Veil present; bitter. (Same as Sm-44155).

Sm-55631

GYMNOPIIUS SAPINEUS

PHOTO

On conifer wood, Grants Pass, Oregon, November 14, 1956.

Veil (whitish) obvious in one basidiocarp. (Same as Sm-44155).

Sm-55658

GYMNOPIIUS SAPINEUS

On conifer wood, Grants Pass, Oregon, November 14, 1956.

(Same as Sm-44155).

Sm-55936

GYMNOPIIUS SAPINEUS

On conifer wood, Crescent City, Calif., November 21, 1956

Veil present, whitish. (Same as Sm-44155).

Sm-56049

GYMNOPIUS SAPINEUS

On conifer log, Grants Pass, Oregon, November 24, 1956

(Same as Sm-44155).



Sm-56203

GYMNOPIIUS SAPINEUS

On conifer debris, Trinidad, Calif., December 3, 1956

(Same as Sm-44155).

Sm-56223

GYMNOPIIUS SAPINEUS

On conifer wood, Trinidad, Calif., December 3, 1956

Smith says: veil slight. (Same as Sm-44155).

Sm-58394

GYMNOFILUS SAPINEUS

PHOTO

On conifer log, Payette Lakes, Idaho, June 28, 1958

(Same as Sm-44155).

Sm-59979

GYMNOPIIUS SAPINEUS

Under lodgepole pine, Burgdorf, Idaho, August 13, 1958

(Same as Sm-44155).

Sm-61613

GYMNOPIUS SAPINEUS

K-26

On conifer log, Laurentide Park, August 30, 1959

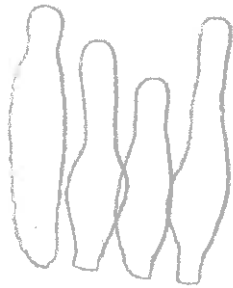
Smith says: G. sapineus, small, yellow form, thin veil.

Notes by Hesler

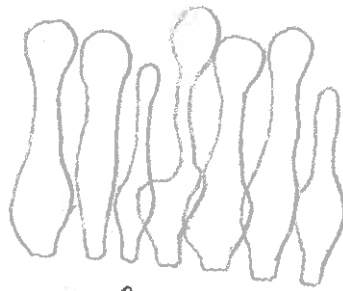
Spores (6.5)7-9.5 x 4-5.5  $\mu$ , ellipsoid, inequilateral, ferruginous in KOH, dextrinoid, verruculose, no pore. Basidia 23-28 x 6-7  $\mu$ , (2)4-spored. Pleurocystidia 26-34 x 6-8  $\mu$ , flask-shaped, not capitate, or obscurely so; cheilocystidia 25-35 x 5-8  $\mu$ , flask-shaped, capitate, more rarely non-capitate, sometimes extending up the sides of the gills 75  $\mu$ . Gill trama of subparallel hyphae, 4-9  $\mu$  broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, with some uplifted hyphae forming a slightly fibrillose surface, and scattered mounds of brown, incrusted hyphae. Clamp connections present, small. Caulocystidia not found.

*Gymnophilus sapineus*

Sm-61613



Pl- x 1000



Ch- x 1000

Sm-63220

GYMNOPIIUS SAPINEUS

On hardwood ? Somerset, England, September 17, 1960

(Same as Sm-44155).

Sm-63384

GYMNOPIUS SAPINEUS

On conifer wood, Wilderness Park, Michigan, October 15, 1960

(Same as Sm-44155).



Sm-65920

GYMNOPIIUS SAPINEUS

On conifer log, Payette Nat'l. Forest, Idaho, August 14, 1964

(Same as Sm-44155).

Sm-72599

GYMNOPIIUS SAPINEUS

On hardwood, George Reserve, Michigan, September 15, 1965

Smith says:  $\text{FeSO}_4$  - instantly olive. Too old to  
show veil.

(Same as Sm-44155).

Sm-72720

GYMNOPILUS SAPINEUS

On sawdust, Marquette, Michigan, September 21, 1965

Smith says: veil slight. (Same as Sm-44155).

GYMNOPIIUS SAPINEUS (Fr.) Maire

On logs of Pinus taeda, near Micanopy, Marion Co., Florida,  
coll. & det. Murrill (as F. penetrans), January 14,  
1941, F18492.

Spores 5.5-<sup>8</sup>~~7~~ x 4-<sup>5</sup>~~4.7~~  $\mu$ , ellipsoid, slightly inequi-  
lateral, verruculose, germ pore none, yellowish brown in  
KOH, some at once dextrinoid in Melzer's reagent. Pleuro-  
cystidia (not found); cheilocystidia 22-30 x 3-8  $\mu$ , flask-  
shaped, capitate, colorless or with brownish pigment. Gill  
trama of subparallel hyphae, 2-4  $\mu$  broad. Subhymenium not  
distinctive. Pileus trama of radial hyphae. Cuticle of  
repent, brown hyphae forming a zone of several layers.

The pileus in this collection is distinctly scaly;  
I call it G. sapineus.

GYMNOPILUS SAPINEUS (Fr.) Maire

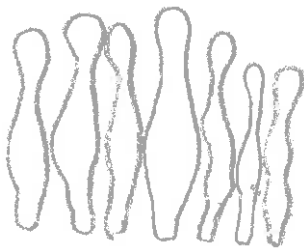
On logs of Pinus taeda, near Micanopy, Marion Co., Florida,  
coll. & det. Murrill (as F. penetrans), January, 14,  
1941, Fl8492.

Spores 5.5-7.5 x 4-4.7  $\mu$ , ellipsoid, slightly inequilateral, verruculose, germ pore none, yellowish brown in KOH, some at once dextrinoid in Melzer's reagent. Pleurocystidia (not found); cheilocystidia 22-30 x 3-8  $\mu$ , flask-shaped, capitate, colorless or with brownish pigment. Gill trama of subparallel hyphae, 2-4  $\mu$  broad. Subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent, brown hyphae forming a zone of several layers.

The pileus in this collection is distinctly scaly;  
I call it G. sapineus.

*Gymnopilus penetrans sapineus*  
det Murvell (7 18492)

This is G. sapineus.



Ch - x 1000

Flett-74245

GYMNOPIIUS SAPINEUS

On old rails of Thuja plicata, Zenith, Wash., Nov. 2, 1940,  
det. Harding.

Cheilocystidia: some filled with a brown contents.

(Same as Sm-44155).

Sm-55808

GYMNOPIIUS SORDIDO-STIPES sp. nov.

PHOTO

Cespitose, on sawdust, Grants Pass, Oregon, November 18, 1956.

Type

Notes by Smith

Pileus 4-10 cm broad, obtuse to convex, expanding to plane, "Hays russet" fading to "ochraceous orange", margin opaque at all times, minutely squamulose under a lens, more distinctly so when faded. Context concolor with surface; odor none, taste bitter.

Lamellae close, medium broad, yellowish orange.

Stipe 4-10 cm long, 5-12 mm thick, at apex, equal to clavate, narrowed below (in clusters) almost concolorous with the cap and darkening from base up, at first with a thin coating of orange-buff veil remnants. Veil leaving an evanescent zone.

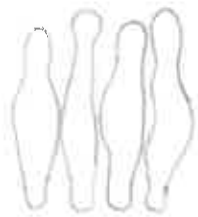
Notes by Hesler

Spores (5.5)6-7.5 x 3.5-4.5  $\mu$ , ellipsoid, slightly inequilateral, verruculose (appearing wrinkled), ferruginous in KOH, dextrinoid, no germ pore. Basidia 22-25 x 5-6  $\mu$ , 4-spored. Pleurocystidia 23-27 x 5-6  $\mu$ , ventricose, sometimes more or less capitate; cheilocystidia 17-28 x 4-6  $\mu$ , ventricose, flask-shaped, capitate to non-capitate. Gill trama of subparallel hyphae, 4-9  $\mu$  broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent, brown hyphae, with bundles of brown, frequently incrustated hyphae (scales). Pileocystidia of two types: (1) 13-24 x 5-7  $\mu$ , colorless, clavate, scattered, rare; (2) 35-48 x 6-10  $\mu$ , clavate, brown, sometimes incrustated, often forming mounds. Caulocystidia 24-38 x 3-7  $\mu$ , colorless, clavate, in tufts. Yellow pigment, soluble in KOH, present in gill trama.

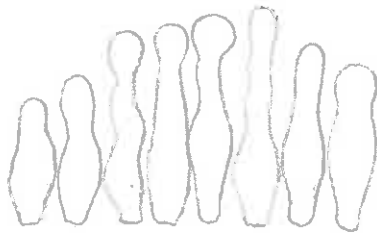


*Gymnopilus sordido-stipes* sp. nov.

Smith - 55808 - Type



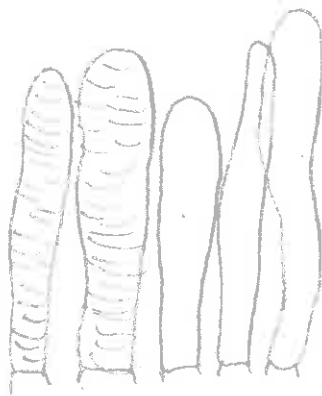
Sp - x 1000



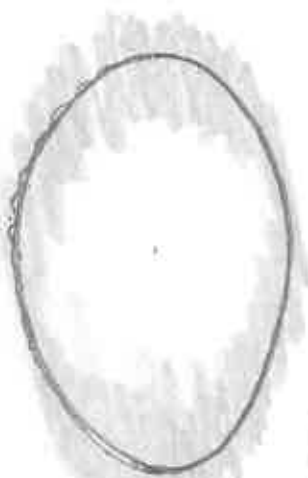
Ch - x 1000



Piles - colorless  
x 1000



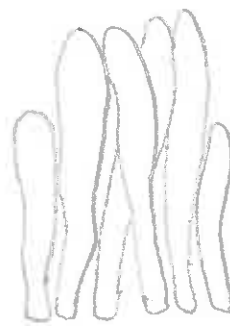
Piles - brown  
x 1000



x 8000



Spores - x 4000



Caules - x 1000